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Phila. Acad., 1876, xxviii, 110–112. (3). How Plants Behave. New York, 1875. (4). Structural Botany. New York, 1880.
Henschel, A. : Von der Sexualität der Pflanzen. Breslau, 1820.
Henslow, Geo. : On the Self-Fertilization of Plants, (*Trans. Linn. Soc.*, 1877, 2 ser., Bot., i, 317–398).
Hildebrand, F. : Die Geschlechter Vertheilung bei den Pflanzen. Leipzig, 1867.
Kuhn, M. : Einige Bemerkungen über Vandellia und den Blüthenpolymorphismus (*Bot. Zeitung*, 1867, xxv, 65–7).
Lubbock, Sir John : British Wild Flowers in Relation to Insects. London, 1875.
Meehan, T. : Fertilization of Flowers by Insect Agency. (*Proc. Phila. Acad.*, 1876, xxviii, 108–112).
Masters, M. T. : Cleistogamous Flowers in *Scrophularia arguta*. (Vegetable Teratology. London, 1869, p. 334).
Müller, H. : (1). Befruchtung der Blumen durch Insekten. Leipzig, 1873. (2). Alpenblumen; ihre Befruchtung durch Insekten. Leipzig, 1881.
Ogle, W. : The Fertilization of certain Plants, (*Pop. Sci. Rev.*, 1870, ix, 45–56).
Pryor, R. A. : On the Fertilization of certain Plants, (*Sci. Gossip*, 1873, 258–9).
Sprengel, C. K.: Entdeckte Geheimniss der Natur. Berlin, 1793.
Ricca, L.: Alcune osservazioni relative alla dicogamia nei vegetali, (*Atti. Soc. Ital. di Sci. Nat.*, 1871, xiii, 261.)
Wilson, A. S. : On the Association of an inconspicuous Corolla with proterogynous Dichogamy in Insect-Fertilized Flowers. (*Rep. British Assoc. Adv. Sci.*, 1878, 564–7). Abstract, (*Journal of Botany*, 1878, xvi, n. s,, vii, 314-315).

§ 135. **A New North American Lichen.**

By H. Willey.

Mr. C. G. Pringle, who in the past two years has added to our knowledge of the Lichen Flora of Northern New England and Lower Canada, last spring collected in Arizona, some lichens, among which there is one that is new and particularly interesting.

This lichen, for an inspection of the specimen of which I am indebted to Charles J. Sprague, Esq., of Boston, was collected in the Santa Rita Mountains, Arizona. It belongs to the genus *Omphalodium*, and is considered by Prof. Tuckerman to be a subspecies of *O. Hottentottum*, (Thunb.), and is to be distinguished as

O. Hottentottum, var. ARIZONICUM, Tuck., ined. The genus belongs to the family Umbilicariae, and is distinguished from *Umbilicaria* by the thalline margin of the apothecia, on which account *O. Hottentottum* and the only other species, *O. Pisacomense*, May. & Fl., a South American lichen, are referred by Nylander to *Parmelia*. *O. Hottentottum* is a rather rare Cape of Good Hope lichen marked by the ciliate margins of the thallus and of the apothecia ; though this character is not constant.

In var. *Arizonicum* the lobes are more rounded and crenate than in *Hottentottum* ; the upper side is smooth and greenish-glaucescent, the under side fuscous-black, naked, smooth at the centre, and becoming lacerate in anastomosing ridges towards the circumference. The apothecia are numerous, scattered, at first concave, then plane, with an inflexed, entire or more slightly crenulate thalline margin, reaching 9mm. in diameter ; the disk dark chestnut ; the hymenium, which rests in the gonidial stratum, is pale ; thekes inflated ; spores in 8s, ovoid or elliptical, colorless, measuring from 11– to 15–thousandths of a millimetre in length and from 6 to 9 in breadth. The spermogones are numerous near the margin of the lobes, black, more prominent than in *Hottentottum*; sterigmas simple; spermatia staff-shaped, 9– to 11–thousandths of a millimetre in length. Reaction of the hymenium from blue becoming vinous-red. Gonidia from 13 to 18 mmm. in diameter.

A thin section of the thallus shows it to be composed of a compact medullary tissue of longitudinal fibres, which pass perpendicularly to the surface on either side, the gonidial stratum being about one millimetre below the upper surface. After treatment with potash, sulphuric acid and iodine, the hymenium assumes a deep blue color, the hypothecium a pale yellow, and the internal contents of the spermogones a vinous-red, and the hyphae of the thallus become a pale blue, which is deeper when the section is of some thickness.

In the only fragment of *O. Hottentottum* which I have seen, the laciniae of the thallus are narrow and elongated, the upper surface is darker than in var. *Arizonicum* and the lower surface uneven but not lacerate, with stiff fibres at the margin, The apothecia are also ciliate and the margin is more inflexed than in the other. A thin section shows the structure to be the same in both plants, the inferior stratum being, however, somewhat narrower in *Hottentottum*; the gonidia all about 13mmm. in diameter. On the application of potash, the gonidial stratum becomes a bright red, a change which does not occur in var. *Arizonicum*. The spores in *Hottentottum* (seen only in the thekes where they often are smaller than when free) are like those of the other plant, but from 9 to 11mmm. in length. Reaction of the hymenium with iodine, blue. The hyphae of the lower stratum are continued into the solid fibrils.

It is curious that two other Cape lichens, *Parmelia molliuscula*, Ach., and *Pertussaria ambigens*, (Nyl.) Tuck., have also been found in the western regions, the one being not uncommon in the Rocky Mountains and the other occurring in Oregon.

§ 136 **Ballast Plants in and near New York City.**—I have found but little opportunity during the past season to continue the observation of adventive plants introduced with ballast, reported in previous numbers of the BULLETIN, (Vol. vii. p. 122). The principal grounds near Communipaw, containing the freshest deposits of ballast have been frequently dug over to destroy weeds, so that there was little chance for any mature growths. No new ballast has been brought there this year, and there are doubtless other places near New York where it has been deposited which if sought out and watched during the next few years would richly repay attentive observation.

The results of a few visits to the grounds at Communipaw Ferry are given below, with the names of several species which were collected in 1880, but omitted by mistake in last year's report. Many, if not most, of those previously reported continue to reappear where the ground is undisturbed. *Asperugo procumbens*, *Neslia paniculata*, and *Sisymbrium Irio* were found in considerable masses in places quite distant from where first found; and *Lepidium Draba*, exterminated where it had flourished several years, appeared from fresh seeds in another quarter.